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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/830,069  | 04/23/2004  | Ayae Endo            | 112205.01           | 7682             |
| 25944   | 7590        | 11/02/2005           | EXAMINER            |                  |
| OLIFF & BERRIDGE, PLC<br>P.O. BOX 19928<br>ALEXANDRIA, VA 22320 |             |                      | CAMERON, ERMA C     |                  |
|   |             | ART UNIT             |                     | PAPER NUMBER     |
|   |             |                      |                     | 1762             |

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                          |                  |  |
|------------------------------|--------------------------|------------------|--|
| <b>Office Action Summary</b> | Application No.          | Applicant(s)     |  |
|                              | 10/830,069               | ENDO ET AL.      |  |
|                              | Examiner<br>Erma Cameron | Art Unit<br>1762 |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 9/13/2005.
- 2a) This action is FINAL.                                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-10 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. 10/095,048.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

|  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

1. Applicant's arguments filed 9/13/2005 have been fully considered but they are not persuasive.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. The rejection of Claims 1-5 and 7-10 under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method wherein the heterocyclic solvent has a boiling point equal to or more than 170 degrees C, does not reasonably provide enablement for a method wherein the heterocyclic solvent is not restricted to this BP is withdrawn because of the 9/13/2005 amendment.

4. The rejection of Claims 1 and 3-10 under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method using an ink-jet discharge device, does not reasonably provide enablement for any discharge device is withdrawn because of the amendment filed 9/13/2005.

5. The rejection of Claims 1-10 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement is withdrawn because of the 9/13/2005 amendment.

6. Claims 1-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

See [0004]. In what way does furan or tetrahydrofuran have substituents? In the 9/13/2005 amendment, the applicant states that "all chemical structures are made up of constituent atoms or groups of atoms, and it is in this manner that Applicants refer to the claimed compounds as having constituents". However, this does not explain how or in what way furan or tetrahydrofuran have substituents.

7. Claims 1-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

“...excluding a hydrogen atom...” in claim 1 is new matter that was not in the specification as originally filed.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

d) Claim 1: it is not clear what is meant by substituent. In what way does furan, one of the solvents used by applicant, have a “substituent”?

e) Claim 5: does this claim mean that an electro-luminescent material is the same as the conductive, insulative or semiconductive material of claim 1, or is the electro-luminescent material in addition to the materials of claim 1?

g) Claim 7: it is not clear what is meant by compound including a furan materials? Does this mean that the compound is a furan, or only incorporates a furan?

h) Claim 9: there is no antecedent basis for "another organic solvent". A first organic solvent has not been mentioned.

i) Claim 10: it is not clear which of the two solvents is referred to as "said solvent".

j) Claim 10: it is not clear what "including a benzene derivative" modifies. It appears to modify "heterocyclic compound". From [0022] it appears that it should modify the other solvent. If it modifies "heterocyclic compound", there is no antecedent basis for "heterocyclic compound that includes a benzene derivative".

**THE ABOVE ITEMS WERE NOT ADDRESSED IN THE 9/13/2005 AMENDMENT.**

**NEW REJECTIONS:**

k) Claim 5: the strikeout thru 4 does not show up. The deletion should be made as [[4]].

*Claim Objections*

10. The objection to Claim 4 is withdrawn because of the 9/13/2005 amendment.

***Double Patenting***

11. The terminal disclaimer of 9/13/2005 has been received and approved.

***Claim Rejections - 35 USC § 102***

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. The rejection of Claims 1-4, 6- 7 and 9-10 under 35 U.S.C. 102(b) as being clearly anticipated by Specht et al (4155767) is withdrawn because of the amendment filed 9/13/2005.

14. The rejection of Claims 1- 5 under 35 U.S.C. 102(b) as being clearly anticipated by EP 892028 is withdrawn because of the amendment filed 9/13/2005

***Claim Rejections - 35 USC § 103***

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. The rejection of Claim 8 under 35 U.S.C. 103(a) as being unpatentable over Specht et al (4155767) is withdrawn because of the 9/13/2005 amendment.

*Specification*

17. The chemical formulas on pages 10 and 11 are somewhat fuzzy. They should be replaced with clearer images.

**THE APPLICANT DID NOT ADDRESS THIS IN THE 9/13/2005 AMENDMENT.**

*Conclusion*

18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erma Cameron whose telephone number is 571-272-1416. The examiner can normally be reached on 8:30-6:00, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Erma Cameron*  
ERMA CAMERON  
PRIMARY EXAMINER

Erma Cameron  
Primary Examiner  
Art Unit 1762

October 29, 2005